

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 1, 2 and 7-10 in accordance with the following:

1. (CURRENTLY AMENDED) In a network constituted with a multi-stage connection of a plurality of wavelength division multiplex (WDM) transmission equipment, each having a receiving amplifier amplifying a WDM signal received from a preceding station, and a transmitting amplifier outputting a WDM signal to a succeeding station, a gain setting method for the receiving amplifier comprising:

detecting the necessity of gain setting of the receiving amplifier when the power of the receiving amplifier is turned on,

requesting WDM transmission equipment in a preceding station to output ASE light;

in the WDM transmission equipment of the preceding station, based on the request for ASE light output, shutting off both passing-through light and added light, and outputting the ASE light corresponding to a predetermined number of wavelengths of signal light;

in the receiving amplifier of the WDM transmission equipment in a station of interest, performing the gain setting by use of the ASE light; and

on completion of the gain setting, the WDM transmission equipment of the station of interest ~~being shifted to receive an optical signal~~requests the WDM transmission equipment of the preceding station to halt the ASE light output, and the WDM transmission equipment of the preceding station being switched over halts the ASE light output upon receiving the request and switches the output to an optical signal output.

2. (CURRENTLY AMENDED) In a network constituted with a multi-stage connection of a plurality of wavelength division multiplex (WDM) transmission equipment, each having a receiving amplifier amplifying a WDM signal received from a preceding station, and a transmitting amplifier outputting a WDM signal to a succeeding station, a gain setting method for the receiving amplifier comprising:

detecting the necessity of gain setting of the receiving amplifier at the time of either restoration from a break or replacement of the fiber connecting the WDM transmission equipment sets, and requesting WDM transmission equipment in a preceding station to output ASE light;

in the WDM transmission equipment of the preceding station, based on the request for ASE light output, shutting off both passing-through light and added light, and outputting the ASE light corresponding to a predetermined number of wavelengths of signal light;

in the receiving amplifier of the WDM transmission equipment in a station of interest, performing the gain setting by use of the ASE light; and

on completion of the gain setting, the WDM transmission equipment of the station of interest requests the WDM transmission equipment of the preceding station to halt the ASE light output~~being shifted to receive an optical signal~~, and the WDM transmission equipment of the preceding station halts the ASE light output upon receiving the request and switches the output~~being switched over to an optical signal output~~.

3. (ORIGINAL) The gain setting method for the receiving amplifier in the WDM transmission equipment according to claim 1,

wherein the ASE light corresponding to the predetermined number of wavelengths of the signal light is ASE light corresponding to one wavelength of the signal light.

4. (ORIGINAL) The gain setting method for the receiving amplifier in the WDM transmission equipment according to claim 2,

wherein the ASE light corresponding to the predetermined number of wavelengths of the signal light is ASE light corresponding to one wavelength of the signal light.

5. (PREVIOUSLY PRESENTED) The gain setting method for the receiving amplifier in the WDM transmission equipment according to claim 1,

wherein each of the plurality of WDM transmission equipment comprises a network element which overall controls each WDM transmission equipment set, and at the time of turning on the power of the receiving amplifier in the WDM transmission equipment of the station of interest, the network element in the station of interest detects the necessity of the gain setting of the receiving amplifier.

6. (PREVIOUSLY PRESENTED) The gain setting method for the receiving amplifier in

the WDM transmission equipment according to claim 2,

wherein each of the plurality of WDM transmission equipment comprises a network element which overall controls each WDM transmission equipment set, and at the time of turning on the power of the receiving amplifier in the WDM transmission equipment of the station of interest, the network element in the station of interest detects the necessity of the gain setting of the receiving amplifier.

7. (CURRENTLY AMENDED) The gain setting method for the receiving amplifier in the WDM transmission equipment according to claim 1,

wherein the shutoff of the passing-through light and the added light is performed by closing a shutter disposed on the input side of the transmitting amplifier ~~of each of the plurality of WDM transmission equipment in the preceding station.~~

8. (CURRENTLY AMENDED) The gain setting method for the receiving amplifier in the WDM transmission equipment according to claim 2,

wherein the shutoff of the passing-through light and the added light is performed by closing a shutter disposed on the input side of the transmitting in the preceding station ~~amplifier of each of the plurality of WDM transmission equipment.~~

9. (CURRENTLY AMENDED) The gain setting method for the receiving amplifier in the WDM transmission equipment according to claim 7,

wherein, when outputting the ASE light, the transmitting amplifier in the preceding station supervises a condition of the shutter disposed on the input side of the transmitting amplifier in the preceding station, and on occurrence of a malfunction, the malfunction is reported to a maintenance person.

10. (CURRENTLY AMENDED) The gain setting method for the receiving amplifier in the WDM transmission equipment according to claim 8,

wherein, when outputting the ASE light, the transmitting amplifier in the preceding station supervises a condition of the shutter disposed on the input side of the transmitting amplifier in the preceding station, and on occurrence of a malfunction, the malfunction is reported to a maintenance person.

11. (ORIGINAL) The gain setting method for the receiving amplifier in the WDM

transmission equipment according to claim 1,

wherein, in the WDM transmission equipment of the station of interest, a stable condition of the ASE light output of the transmitting amplifier in the preceding station is supervised, and on detection of an unstable condition of the transmitting amplifier in the preceding station while the gain setting of the receiving amplifier is being performed in the station of interest, the gain setting of the receiving amplifier in the station of interest is canceled, and after detecting a stable condition of the ASE light output of the transmitting amplifier in the preceding station, the gain setting of the receiving amplifier in the station of interest is performed afresh.

12. (ORIGINAL) The gain setting method for the receiving amplifier in the WDM transmission equipment according to claim 2,

wherein, in the WDM transmission equipment of the station of interest, a stable condition of the ASE light output of the transmitting amplifier in the preceding station is supervised, and on detection of an unstable condition of the transmitting amplifier in the preceding station while the gain setting of the receiving amplifier is being performed in the station of interest, the gain setting of the receiving amplifier in the station of interest is canceled, and after detecting a stable condition of the ASE light output of the transmitting amplifier in the preceding station, the gain setting of the receiving amplifier in the station of interest is performed afresh.